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REPRINT AND CIRCULAR SERIES
OF THE
NATIONAL RESEARCH
COUNCIL

DOCTORATES CONFERRED IN THE SCIENCES BY
AMERICAN UNIVERSITIES
1929 - 1930

COMPILED FOR THE RESEARCH INFORMATION SERVICE
NATIONAL RESEARCH COUNCIL

BY
CALLIE HULL AND CLARENCE J. WEST

NATIONAL RESEARCH COUNCIL
WASHINGTON, D. C.
1930

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This is the eleventh year in which the Research Information Service has compiled the information concerning doctorates conferred in the sciences by American universities. Statistics before 1919-1920 are available from reports of other compilers.

It is interesting to see the steady increase in the number of doctorates each year from 330 in 1919-1920 to 1055 in 1929-1930. In the first list compiled by the Research Information Service thirty-one universities reported. In the present list there are sixty-two universities. In many cases the information for previous years was not given, so that the statistics for some of the universities are incomplete.

During the period covered by this compilation, the same subject classification has been used, in order that the statistics might have some comparative value, even though this means that many of the more recently recognized subdivisions of the major fields of science are not given a separate place in the classification. It has been deemed necessary, however, to add Public Health (in 1926) and Medicine and Surgery (in 1930), as scattering the theses on these subjects throughout the compilation gave no indication of the work in these fields.

It should be pointed out that in the classification of the following doctorates, the compilers have had only the title of the thesis and, in most cases, the department in which the doctorate was granted. This has often made it difficult properly to place certain theses and may account for the fact that a thesis appears under one subject, when in reality it belongs under quite a different subject.

The Research Information Service wishes again to express its appreciation of the cooperation of the Registrars and the Deans of the universities in making possible this compilation.

Since 1926 the compilations have appeared in the *Reprint and Circular Series* of the National Research Council (Numbers 75, 80, 86 and 91). Before that time they were published in *Science* and in *School and Society*.

TABLE I
DOCTORATES CONFERRED ACCORDING TO SUBJECTS

	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30
Chemistry	134	150	185	251	250	257	270	278	310	309
Zoology	37	39	45	42	71	55	70	89	91	100
Psychology	26	32	46	51	51	60	74	66	112	92
Physics	28	57	54	58	59	76	92	78	101	89
Botany	30	37	64	57	69	69	53	61	76	81
Mathematics	16	20	28	32	24	47	46	44	61	74
Geology	11	22	34	41	25	27	42	35	45	63
Engineering	3	4	5	5	2	11	10	28	34	49
Physiology	8	18	20	17	17	43	35	28	37	46
Pathology	1	27	21	12	5	4	16	31	27	31
Agriculture	3	9	10	11	16	19	19	31	27	29
Bacteriology	19	15	32	12	20	21	20	29	26	27
Geography	5	3	7	3	13	11	14	7	12	17
Anatomy	4	5	10	5	4	11	13	11	15	12
Public Health	..	..	..	..	..	3	4	4	15	8
Anthropology	4	0	3	3	2	5	3	5	13	6
Paleontology	0	1	2	2	1	7	0	1	2	6
Astronomy	5	4	6	7	3	7	9	3	8	4
Medicine & Surgery.....	..	..	..	..	..	..	..	..	..	4
Metallurgy	2	1	2	2	3	10	4	13	8	3
Mineralogy	0	0	1	1	4	4	2	0	1	3
Archaeology	0	0	0	0	0	0	0	0	2	2
Meteorology	0	2	0	0	0	0	0	0	2	0
Totals	336	455	575	611	640	748	796	842	1025	1055

TABLE II

DOCTORATES CONFERRED ACCORDING TO UNIVERSITIES

	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30
Chicago	42	61	71	75	59	78	86	70	99	94
Wisconsin	15	32	44	41	64	53	55	60	66	86
Cornell	33	36	41	60	39	43	62	67	60	80
Johns Hopkins	21	28	58	44	36	50	44	56	62	58
Michigan	7	20	15	25	15	32	30	52	38	55
Minnesota	16	16	17	23	23	30	29	41	53	53
Ohio State Univ.....	8	13	21	20	33	25	30	25	48	50
California	22	24	27	20	31	38	42	37	50	47
Columbia	26	31	58	57	51	49	62	46	61	44
Illinois	19	28	33	20	32	44	31	36	34	43
Yale	27	22	34	22	41	38	34	38	47	43
Harvard	25	21	31	35	25	35	42	33	40	40
Mass. Inst. Tech.....	7	8	11	18	18	13	18	13	20	29
Pennsylvania	5	9	8	12	12	14	27	18	24	26
Stanford	5	7	8	14	15	17	17	17	26	26
Iowa State College.....	..	..	..	9	12	14	13	26	28	26
Princeton	8	12	9	17	15	12	18	17	25	22
Calif. Inst. Tech.....	0	2	0	9	8	15	8	18	22	18
Pittsburgh	2	7	7	5	8	7	11	13	8	15
Virginia	0	2	1	3	5	5	8	3	5	12
Clark	6	6	8	3	6	7	7	5	11	11
Indiana	1	3	5	5	8	7	5	8	9	11
Kansas	1	0	2	2	4	8	8	5	10	11
New York	4	3	10	2	5	7	4	11	13	10
Iowa Univ.	7	12	12	16	19	28	24	32	38	9
Brown	4	3	3	3	8	4	4	5	7	9
Northwestern	0	7	2	6	2	4	6	8	5	8
Washington Univ., St. Louis.	3	2	8	2	0	5	7	2	7	7
Cincinnati	2	5	3	4	7	8	5	1	14	6
Fordham	0	2	2	0	2	2	1	2	8	6
Missouri	0	4	0	5	4	3	7	2	3	6
Nebraska	4	2	2	5	7	2	2	3	4	6
North Carolina	2	1	2	1	0	7	3	4	3	6
Texas	0	0	1	0	0	1	3	0	7	6
American	..	..	..	..	..	3	3	3	1	5
Radcliffe	3	3	3	2	3	3	2	1	2	5
Rutgers	..	..	..	..	..	2	3	9	4	5
Syracuse	1	1	0	0	0	2	3	2	1	5
Washington	0	2	0	1	3	1	1	5	8	5
Western Reserve	..	..	..	..	..	..	..	..	3	5
Duke	..	..	..	..	..	..	..	..	4	4
Purdue	..	..	..	..	..	..	..	..	1	4
Maryland	1	0	0	1	5	6	3	6	8	3
Mass. Agric. College.....	1	2	1	1	0	1	0	1	1	3
Notre Dame	0	0	1	2	0	0	0	0	1	3
Penn State College.....	..	..	..	..	..	..	1	4	3	3
Rice	1	1	0	1	2	1	1	3	4	3
St. Louis	..	..	..	..	..	..	2	3	2	3
Boston	0	0	1	0	0	1	0	0	0	2
Bryn Mawr	2	7	0	1	1	2	4	0	1	2
Catholic	1	0	1	3	3	6	5	8	6	2
Colorado	0	1	1	0	1	3	1	3	3	2
George Washington	2	8	13	5	6	4	4	2	5	2
Michigan State College.....	0	0	0	0	1	4	2	2	6	2
Oregon	..	..	..	..	..	1	0	0	0	2
Rensselaer	2	1	0	2	0	2	2	7	3	2
Rochester	..	..	..	..	1	0	3	3	0	2
State College of Wash.....	..	..	..	..	..	..	..	..	..	1
Tulane	..	..	..	..	..	..	1	2	1	1
Arizona	..	..	..	..	..	..	1	0	0	0
Georgetown	..	..	..	..	..	..	..	..	1	0
N. Y. State Col. Forestry....	..	..	..	..	..	1	1	2	2	0
Marquette	..	..	..	..	..	..	..	1	0	0
Totals	336	455	575	611	640	748	796	842	1025	1055

TABLE III

DISTRIBUTION OF DOCTORATES FOR THE CURRENT YEAR BY UNIVERSITY BY SUBJECT

	Agriculture	Anatomy	Anthropology	Archeology	Astronomy	Bacteriology	Botany	Chemistry	Engineering	Geography	Geology	Mathematics	Medicine	Metallurgy	Mineralogy	Paleontology	Pathology	Physics	Physiology	Psychology	Public health	Zoology	Total
American	1							3												1			5
Boston								1												1			2
Brown						1		5				1						1		1			9
Bryn Mawr												1						1		1			2
California	1		2		2	1	7	13	2	1	1					1	1	7	2	2		4	47
Calif. Inst. Tech.								4			1					2	1						18
Catholic			1					1															2
Chicago		2	1			4	11	28		1	5	12					2	7	8	10		3	94
Cincinnati								4				1					1						6
Clark										5		1							6				11
Colorado						1																	2
Columbia			1				3	16	2		8	1						3		6		3	44
Cornell	5	2				1	10	14	2	1	5	4			1	1	4	7	2		21		80
Duke								2											1				4
Fordham								4								1						1	6
George Washington											2												2
Harvard						1	5	8			6	7						5	2	4		2	40
Illinois	4					1	2	23				5					3		1		4		43
Indiana								3			1	2					1		2		2		11
Iowa							1	3				1				1			2			1	9
Iowa State College	5					3	5	6	4							1						2	26
Johns Hopkins				2		4		18	4		1	2					4	5	3	3	5	7	58
Kansas						1		4				1						1	3			1	11
Maryland	2							1															3
Mass. Agric. College																						3	3
Mass. Inst. Tech.								7	14		2	4		1						1			29
Michigan		1			1		2	9	6		1	9					10	4	3	1		8	55
Michigan State Col.	1							1															2
Minnesota	1	3				2	2	11	3		2	1	4				7	2	6	6		3	53
Missouri	1						2					1						1				1	6
Nebraska							2	2		1							1						6
New York								7										3					10
North Carolina							1	1										3		1			6
Northwestern								7											1				8
Notre Dame								1						2									3
Ohio State University							5	14	3			2							14			12	50
Oregon																		2					2
Pennsylvania		2				1	2	5			1	2						2	1	7		3	26
Penn. State College							10	3															3
Pittsburgh								8	3			1							2			1	15
Princeton		1						5			9	4					1	2					22
Purdue	1						1	2															4
Radcliffe					1						1						1	1	1				5
Rensselaer								1										1					2
Rice								2				1											3
Rochester																			2				2
Rutgers		2						3															5
St. Louis								1				1						1					3
Stanford							4	7	2		6							1	2	2		2	26
State Col. Wash.																	1						1
Syracuse								2			1								2				5
Texas						1		1				2								1		1	6
Tulane																			1				1
Virginia		1					3	4				1						1				2	12
Washington								2		2	1												5
Washington Univ., St. L.							2	1										2	1			1	7
Western Reserve						1		3									1						5
Wisconsin	4					4	7	20	2	4	6	5			2		6	6	4	7		9	86
Yale	1		1				3	18	4	1	3	1						3	1	4	1	2	43
Total	29	12	6	2	4	27	81	309	49	17	63	74	4	3	3	6	31	89	46	92	8	100	1055

AGRICULTURE

American: WARREN DAVID BRUSH, "The utilization of beech, birch and maple in the Northeast."

California: ORA SMITH, "A study of changes in permeability in the potato tuber associated with treatments that alter the rest period."

Cornell: CLYDE CARNEY HAMILTON, "A study of the principles underlying the action of spreaders and stickers when combined with spray materials." HARVEY BLOUNT MANN, "Availability of manganese and of iron as affected by applications of calcium and magnesium carbonates to the soil." DEAN RICHMOND MARBLE, "A statistical study of factors effecting egg weight." ROBERT GROVE MAXWELL, "Significance and causes of daily fluctuations in the weight of dairy cattle." HUBERT JOHN SLOAN, "The seasonal variation in the antirachitic portion of sunshine and its transmission through various window glazing materials."

Illinois: EARL WILTON HENDERSON, "The influence of temperature and breeding upon the rate of growth of chick embryos." FRANK JAMES McCLURE, "The effect of fluorine on calcium metabolism and its bearing on the value of phosphorite minerals in animal nutrition." CARL ELMER ROSENQUIST, "Hybrid vigor in wheat (*Triticum vulgare*)." PAUL HUBERT TRACY, "The relation of certain plant processes to flavor development in market milk."

Iowa State College: ARTHUR OTTO ALBEN, "Studies in electrodialysis of soils." JOHN THOMPSON AUTEN, "A soil study of the Mont Alto State Forest, Pennsylvania." ARTHUR DAVID MCKINLEY, "Some effects of sorghums on soils and crops." RAY ARTHUR PENDLETON, "The determination of the nitrate assimilating power of soils and some nitrate fertilization studies." JULIAN CLAUDE SCHILLETTER, "Time of bud differentiation in the Dunlap strawberry."

Maryland: W. W. ALDRICH, "Effect of late summer and early fall applications of sodium nitrate upon the color and keeping quality of apples the same season, and upon the nitrogen content of the fruit, leaves and spurs." L. A. FLETCHER, "A study of the factors influencing the red color on apples."

Michigan State College: WILFRID GORDON BRIERLEY, "A study of senescence of the raspberry cane."

Minnesota: TOMAS VALDEZ ROGOR, "The effect of pressure on the udder upon the rate and quality of milk secretion."

Missouri: LEONARD DAVID BAVER, "The effect of the amount and nature of exchangeable cations on the structure of a colloidal clay."

Purdue: EVERETT LEE SCOTT, "The influence of the growth and fattening processes on the quality and quantity of meat yielded by swine."

Rutgers: ROBERT ADAM DIEHM, "The nature of the hemicelluloses and their decomposition by soil microorganisms." JULIUS FREDERICK MULLER, "The base exchange capacity of organic materials."

Wisconsin: JOHN EDLESTON BOWSTEAD, "The effect of breeding immature females." JOSEPH ANTHONY CHUKA, "The mineral constituents of the colloidal fraction of soils." HENRY LOWSMA, "Studies on nitrate assimilation in wheat as related to illumination." CHIEN PENG, "Studies on the determination of potassium and availability of this element in silicates and soils."

Yale: OTTO NIEUWEJAAR, "Forest taxation in Norway and Sweden."

ANATOMY

Chicago: ROSCOE LEWIS MCKINNEY, "Studies on fibers in tissue culture. III. The development of reticulum into collagenous fibers in cultures of adult rabbit lymph nodes." HAROLD C. VORIS, "The morphology of the spinal cord of the Virginian opossum (*Didelphis Virginiana*)."

Cornell: ROBERT GUSTAV NEL, "A comparative study of *Aonidiella aurantii* Mask. and *Aonidiella citrinus* Coq. with special reference to the anatomy of the latter." JAKE LUIDENS WIERDA, "Some changes in the dimensions and structure of the intestine of the white rat induced by diet."

Michigan: RUSH ELLIOTT, "A contribution to the development of the pericardium in the rabbit."

Minnesota: CARROLL EDWARD PALMER, "Studies on the center of gravity in the human body." HAROLD EWART ROE, "The prenatal development of the skin and tela subcutanea in the human fetus." LEON JULIUS TIBER, "The effects of birth moulding on the child's head."

Pennsylvania: WILLIAM GERSHOM DOWNS, JR., "An experimental study of the growth effects of the anterior lobe of the hypophysis on the teeth and other tissues and organs." DORIS ACORN FRASER, "The winter pelage of the adult albino rat."

Princeton: LESLIE ADDISON CHAMBERS, "Studies on the organs of reproduction in the nudibranchiate mollusks, with special reference to *Embletonia fuscata*, Gould."

Virginia: JOHN MAXWELL ROBESON, JR., "The macro- and microscopic anatomy of *Dalyellia Triangulata*, nov. sp."

ANTHROPOLOGY

- California:** LILA MORRIS O'NEALE, "Yurok-Karok basket weavers."
JULIAN HAYNES STEWARD, "The clown in native North America."
Catholic: VINCENT KOPPERT, "The ethnology of the Clayoquat."
Chicago: CORNELIUS BERRIEN OSGOOD, "The ethnology of the northern Dene."
Columbia: RUTH L. BUNZEL, "The Pueblo potter."
Yale: PANCHANAN MITRA, "Anthropological methods and research concepts in America."

ARCHEOLOGY

- Johns Hopkins:** PAUL AUGUSTUS CLEMENT, JR., "Thessalian cults."
MABEL GUDE, "The history of Olynthus."

ASTRONOMY

- California:** MAUD WORCESTER MAKEMSON, "The orbit of comet 1927 f (Gale) with special reference to the question of double solutions."
JOSEPH ALGERNON PEARCE, "Motions of the O and B type stars."
Michigan: WALTER JEFFERSON WILLIAMS, "A spectrographic study of P cygni."
Radcliffe: EMMA T. R. WILLIAMS VYSSOTSKY, "A spectrophotometric study of A stars."

BACTERIOLOGY

- Brown:** EDWIN MUNROE KNIGHTS, "Observations on hemolytic streptococci in scarlet fever."
California: JAMES DUNCAN BREW, "Policies and results of sanitary milk control."
Chicago: PAUL HARDIN HARMON, "Observations on the inoculation of the smaller laboratory animals with the poliomyelitis virus."
ROLAND WENDELL HARRISON, "Experimental studies upon the etiology of influenza." DANIEL ALLAN MACPHERSON, "Studies on the metabolism of the streptococci." WINSTON HARRIS TUCKER, "Studies on *Clostridium putrificum* and *Clostridium putrefaciens*."
Colorado: PHILLIPS THYGESON, "The bacteriology of trachoma."
Columbia: ADA RANNEY CLARK, "The rôle of clasmatoocytes."
Cornell: GUSTAVE IVAR STEFFEN, "The gaseous metabolism of *B. tetani*."
Harvard: JOHN FRANKLIN ENDERS, "A study in bacterial allergy."
Illinois: ROY HANSEN, "The nodule bacteria of the leguminosae with special reference to the mechanism of inoculation."

Iowa State College: DIONISIO I. AQUINO, "Studies on sulfonation and the sulfonating bacteria." MARY FRANCES HOWE, "Oospore and conidial response of species of *Sclerospora*." GEORGE GORDON POHLMAN, "Studies on *Rhizobium meliloti* and *Rhizobium japonicum*."

Johns Hopkins: LUCILE RUSSELL ANDERSON, "A study of bacilli of the genus *Hemophilus* with regard to the X and V growth factors under aerobic and anaerobic conditions." CORNELIUS ALFRED PERRY, "Bacteriological analysis of oysters with special reference to the coli-aerogenes group as an indicator of fecal pollution." MARVIN MAYER HARRIS, "A study of the bacteriology of decomposing crabs and crab meat." MINNIE BEHM KRAEMER HARRIS, "A study of spirochetes in chickens with special reference to those of the intestinal tract."

Kansas: LUCY S. HEATHMAN, "Studies of the antigenic properties of some free living and pathogenic amoebas."

Minnesota: ALBERT VALENTINE STOESSER, "Further studies concerning the toxin-antitoxin union." NEWELL RICHARD ZIEGLER, "A comparison of quantitative methods for the determination of bacterial populations."

Pennsylvania: M. GWENDOLYN HUNSICKER MASON, "Tissue culture studies showing the effect of diphtheria toxin, toxoid, and toxin-antitoxin mixture upon fibroblasts of chick embryo hearts."

Western Reserve: HENRY WELCH, "Studies in ultra violet light."

Wisconsin: OSCAR NELSON ALLEN, "Changes induced in certain species of root nodule bacteria of the *Leguminosae* by repeated passage through the host plants." RUDOLPH JOSEPH ALLGEIER, "Studies in fermentation." FRANKLIN LUDWIG SCHACHT, "The hemolytic streptococcus content of milk with special reference to the alpha type and mastitis." PHILLIPPE ARMAND TETRAULT, "Thermophilic cellulose fermentation."

BOTANY

California: GEORGE FREDERICK HARLAND BUCKLEY, "Inheritance in barley with special reference to the color of *Caryopsis* and *Lemma*." VICTOR HOMER FLORELL, "A genetic and cytologic study of wheat $\times$ rye hybrids." WALTER EDWARD LAMMERTS, "Interspecific hybridization in nicotiana. The amphidiploid *Rustica-Paniculata* hybrid; its origin and cytogenetic behavior." JAMES ROBERT FRYER, "Cytological studies in *Medicago* and related genera." DAVID DANIELS KECK, "A systematic study of the section *Saccanthera*,

genus *Penstemon*." CHARLES FREDERICK POOLE, "The interspecific hybrid *Crepis rubra* × *C. foetida* and some of its derivatives." JOHN MILTON WEBBER, "Interspecific hybridization in *Nicotiana*; the cytology of a sesquidiploid hybrid between *Tabacum* and *Sylvestris*."

Chicago: ALDEN FORREST BARSS, "The effect of moisture supply on the development of the pear (*Pyrus comminus*)."
 GEORGE LYNN CROSS, "A study of meristem in *Osmunda cinnamomea*."
 JOHN HENRY DAVIS, JR., "The vegetation of the Black Mountains of North Carolina."
 ALBERT EDWARD EDGECOMBE, "Immunological relationship of wheats resistant and susceptible to *Puccinia Rubigo-Vera Triticina*."
 FERD WILLIAM GEISE, "Spinach—some physical and chemical studies in relation to the quality of the raw stock for canning."
 LAURENCE FREDERICK GRABER, "Agronomic importance of food reserves in herbaceous plants."
 JUNETTA CHRISTINE HEINONEN, "The effect of galactose toxicity on roots of *Pisum sativum*."
 ELBERT LUTHER LITTLE, JR., "A botanical survey of Muskogee County, Oklahoma."
 LEON MERLE PULTZ, "A study of starch deposition in seeds of *Pisum sativum*."
 WINIFRED CAROLINE WARNING, "Anatomy of the parsnip root."
 HERBERT SNOW WOLFE, "Some effects of ethylene on plants."

Columbia: CLEMENT GRAY BOWERS, "The development of pollen and viscin strands in *Rhododendron catarobieuse* Michaux."
 EDWIN B. MATZKE, "A morphologic study of the variations in *Stellana aquatica* with special reference to symmetry and sterility."
 WILLIAM BYRON SHIPPY, "Influence of environment on the callusing of apple cuttings and grafts."

Cornell: GEORGE WELLS BEADLE, "Genetic and cytological studies of mendelian asynapsis in *Zea mays*."
 HETTIE MORSE CHUTE, "The morphology and anatomy of the *Achene*."
 JOHN B. COTNER, "Inheritance of Ruvia oats."
 TROY MANSELL CURRENCE, "Inheritance studies in *Phaseolus vulgaris*."
 GEMMA JACKSON, "A study of the *Carpophore* of the *Umbelliferac*."
 HSIEN WEN LI, "The inheritance and linkage relations of *brevis* and *nana*, two dwarf types of maize."
 GEORGE FREDERICK POTTER, "Composition and fruit bud formation in non-bearing spurs of the Baldwin apple."
 MABEL LOUISE RUTTLE, "Cytological and embryological studies of the genus *Mentha*."
 GEORGE FREDERICK SPRAGUE, "The inheritance of scutellum colors in maize."
 EARLE IRVING WILDE, "Studies of the delphinium."

Harvard: THEODORE THOMAS AYERS, "A study of parasitism in certain of the mucorales."
 ALTON HERMAN GUSTAFSON, "Cytological studies on the genus *Hieracium*."
 LYMAN BRADFORD SMITH,

"Studies in the *Bromeliaceae*." WILBERT HENRY SPENCER, "Cytological studies in the genus *Sparganium*." ALBERT NEWTON STEWARD, "The *Polygoneae* of Eastern Asia."

Illinois: ARTHUR DAVID MOINAT, "Available water and the wilting of plants." GEORGE MYRON SHEAR, "Studies on inanition in arachis and phaseolus."

Iowa: FRANK LESLIE HOWARD, "The life history of *Physarum polycephalum* Schw."

Iowa State College: LYSLE D. LEACH, "Life history and pathogenicity of *Peronospora Schachtii* Fuckel. on beets (*Beta vulgaris* L.)" BHALCHENDRA B. MUNDKUR, "The increase in lethal action of some fungicides on the spores of species of *Phytophthora* due to changes in the chemical potential." HICKMAN CHARLES MURPHY, "Physiologic specialization in *Puccinia coronata avenae* (Corda) Eriks. and Henn." DONALD R. PORTER, "The pathogenicity of *Fusarium nivium* EFS and the development of wilt resistant strains of *Citrullus vulgaris* Schrod." R. HOWARD PORTER, "The resistance and physiological reaction of strains of cucumbers to mosaic."

Michigan: FRANK BOYD COTNER, "The development of the zoospores in the oomycetes at optimum temperatures and the cytology of their active stages." ADELIA MCCREA, "The reactions of *Claviceps purpurea* to variations of environment."

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Missouri: ALBERT CARL SAEGER, "Investigations in the physiology of the *Lemnaceae*." CLARENCE MITCHELL TUCKER, "The distribution and taxonomy of the genus *Phytophthora* De Bary."

Nebraska: HARVEY JAMES COTTLE, "Studies in the vegetation of Southwestern Texas." ARTHUR EVERETT HOLCH, "Development of roots and shoots of certain tree seedlings in different forest sites."

North Carolina: VELMA DARE MATTHEWS, "Studies on the genera *Nematosporangium* and *Pythium*."

Ohio State: ROBERT WALLACE GERDEL, "Effect of fertilizers and date of planting on the physiological development of the corn plant." MINNIE MAY JOHNSON, "The *Gastromycetes* of Ohio." ORA NEAL LIMING, "The relation of pentathionic acid and its component constituents to toxicity of sulphur fungicides and its toxic action on

fungi." VINCENT HARMON MORRIS, "The identification of certain plant sugars by means of the optical properties of their osazones and other derivatives." FLOYD WILLIAM GEORGE VON OHLEN, "A microchemical study of soybeans."

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Purdue: ESA SHAHEEN HADDAD, "Morphological development of sweet-corn pericarp and the influence of heredity and nutrition on its development."

Stanford: HARRY ALFRED BORTHWICK, "Development of macrogametophyte and embryo of *Daucus Carota* L." JOHN WYNN GILLESPIE, "The *Sympetalae* of Fiji." JOSE BUENCAMINO JULIANO, "On the floral morphology of *Lyonothammus floribundus* A. Gray." IRA LOREN WIGGINS, "Flora of San Diego county, California: A phytogeographic and taxonomic study."

Texas: ROBERTA MOHLING, "Studies on starch deposition in certain mosses and fern allies."

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EDMUND RUFFIN JONES, JR., "The intranuclear deutoplasm, and the origin of gametes in *Prorhynchus Applanatus* Kennel."

Washington University (St. Louis): HAMILTON HYE CARD, "A revision of the genus *Fraseria*." EVA MYRTELLE FLING ROUSH, "A monograph of the genus *Sidalcea*."

Wisconsin: EVA ISABEL BUNTEN, "Studies on sex determination in *Napaea dioica*." DELMER CLAIR COOPER, "Miscrosporogenesis in *Buginvillaea glabra* Choisy." EARL ADRAIN HELGESON, "A physiological study of permeable and impermeable sweet clover seeds." JAMES VERNON HARVEY, "A taxonomic and morphological study of some members of the *Saprolegniaceae*." BEATRICE IRENE NEVINS, "Cytological studies on the antheridia of *Sphaerocarpos donnellii*." EARL JOSEPH RENARD, "The origin and nature of rogues in canning peas." GUSTAV H. RIEMAN, "General factors for pigmentation in the bulb onion and their relation to disease resistance."

Yale: DAVID ALSON KRIBS, "The woods of the *Meliaceae*." CLARK LEAVITT STEVENS, "Growth of the roots of white pine (*Pinus strobus* L.)." CLARENCE WILFORD WATSON, "The decomposition of forest organic matter as related to its composition."

CHEMISTRY

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California: GEORGE HAMILTON CADY, "Some properties of fluorine and hydrofluoric acid." CARL JOSEPH CHRISTENSEN, "Transition probabilities from the 3P state of sodium when excited by 3303 Å resonance radiation." OLIVER HUDLESTON EMERSON, "The metabolism of the nucleosides of uracil and cytosine." HAROLD GOSS, "Calcium and phosphorus metabolism in rats during pregnancy and lactation and the effect of the reaction of the diet thereon." KARL JOHN KORPI, "The kinetics of the decomposition of some quaternary ammonium bases." ROBERT WILBUR LAWRENCE, "I. The magnetic susceptibility of the ions of uranium in aqueous solution. II. The hydrolysis constant of iodine." HERMAN ALFRED LIEBHAFSKY, "The reduction of iodate ion by hydrogen peroxide." MILTON JOSEPH POLISSAR, "The kinetics, statics and energetics of the thermal reaction $\text{CH}_2\text{I} \cdot \text{CH}_2\text{I} = \text{CH}_2 : \text{CH}_2 + \text{I}_2$ in CCl_4 solutions." EDWARD JOHN SALSTROM, "The free energies of some molten metal bromides and their solutions." JOHN PETER SERMATTEI, "The water gas equilibrium." CARL VINCENT SMYTHE, "Studies on the combination of iron with certain proteins, amino acids and related compounds." HAROLD ROBERT STEWART, "Positive ray analysis of the saturated hydrocarbons." AARON WACHTER, "Thermodynamic properties of solutions of molten lead chloride and zinc chloride."

California Institute of Technology: LEE REED BRANTLEY, "High temperature equilibria." DANIEL BRENT MCRAE, "Investigations on the reflection and transmission characteristics of photographic plates." JAMES HOLMES STURDIVANT, "The structures of the ionic crystals brookite and columbite." HOMER BIGELOW WELLMAN,

"The equilibrium between bivalent and quadrivalent palladium and chlorine in hydrochloric acid solution."

Catholic: HUGH THOMAS O'NEILL, "Rates of reduction of some aromatic nitro compounds."

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by the photography of Wilson cloud tracks." FREDERICK CHARLES MAXTED SMITHSON, "Reactions of hypochlorous acid on substituted aromatic amines, on cinnamic and crotonic acids." WILLIAM ELIAS STURGEON, "I. A study of the product of the action of phenyl magnesium bromide on propiophenone oxime: I, 1-Diphenyl-1-hydroxy-2-amio propane, $(C_6H_5)_2C(OH)CH(NH_2)CH_3$. II. A further study of the product of the action of phenyl magnesium bromide on acetophenone oxime: I, 1-Diphenyl-1-hydroxy-2-aminoethane, $(C_6H_5)_2C(OH)CH_2NH_2$." HAROLD HERBERT TUCKER, "2-Chloro-3'-bromoindophenol." HORACE BULLE VAN VALKENBURGH, "I. Ferrous nitroso compounds. II. The structure of ferric thiocyanate and the thiocyanate test for iron." WILLIAM EUGENE VAUGHAN, "The quantum efficiency of ozone formation in the fluorite region." OLIVER GEORGE VOGEL, "The relative partial molal heat contents of the constituents of aqueous sodium chloride solutions." ADDISON CAMPBELL WHEATLEY, "The preparation and some properties of the sulphides of germanium."

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certain aminobenzal-coumaranones, and structurally related amino-chalcone derivatives, with special reference to the relation between color and chemical constitution in these compounds." EVELYN B. TILDEN, "The response of the monkey (*Macacus rhesus*) to withdrawal of vitamin A from the diet." ROBERT P. WALTON, "Separation and characterization of starch amyloses." THOMAS HILLYER WHITEHEAD, "Ion interchanges in aluminum oxychloride hydro-sols.." MAY LEE WHITSITT, "A study of the effect of nitrous acid on vitamins B and G."

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MONROE TROXEL, "The heats of dissociation of hydrogen, oxygen, and nitrogen." ERNEST GARDINER WALTERS, "The vapor pressure and the vapor density of sodium." MORTIMER ALEXANDER YOUKER, "The action of promoters and suppressors on the oxidation of hydrocarbon fuels."

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reduction of aldehydes by the binary system, magnesium iodide +, magnesium." NING KANG TANG, "Precipitation of aluminum hydroxide by means of urea." FRANK HARTMAN WILEY, "The action of nitrous acid on casein."

Michigan State College: JULIA LOOMIS MATTHEWS, "The activity of hydrobromic acid; and the potential of the mercury-mercurous bromide electrode."

Minnesota: ALICE DAY DUSCHAK, "The systematic analysis of the anions." REUBEN BENJAMIN ELLESTAD, "Compressibility of argon, neon and helium at zero centigrade, between zero and one atmosphere pressure." RUTH ESTELLA ELMQUIST, "The quantitative determination of lanthanum and some properties of its compounds." HENRY BOLIVAR BULL, "On the significance of conditions at the interface in relation to the zeta potential." ROSCOE ELMER JACKMAN, "Experiments on 1,3-diketohydrindene and certain derivatives." TOHRU KAMEDA, "I. Determination of the hydrogen-ion concentration in unbuffered solutions. II. The hydrolysis of zinc sulfate, solubility and the composition of the latter oxide precipitated from zinc sulfate solution." BARNARD MITCHEL MARKS, "Some gaseous reactions under the influence of ionizing agents." MARY LOUISE MORSE, "The oxidation of 2, 4, 6-triiodophenol." ERNEST VERNON STAKER, "A comparative study of the peptization of the protein complex in various seeds and grains." ALAN EDWARD TRELOAR, "A biometric study of the chemical properties of wheat and wheat flour." LAWRENCE ZELENY, "The action of formaldehyde on amino acids with special reference to the formation of amines."

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North Carolina: RICHARD ARTHUR LINEBERRY, "The ceramic properties of certain North Carolina clays."

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Notre Dame: HENRY DAVID HINTON, "I. A new method of preparing acetals. II. Acetals of mono-hydric alcohols."

Ohio State: EARL EDSON BEARD, "I. The chemistry of the organic compounds of titanium. II. Titanium tetrachloride in the Friedel-Crafts ketone synthesis." JUSTIN LLOYD BUSSIES, "A study of the preparation and properties of crotonaldehyde-amine condensation products; their analogies and derivatives; and their value as accelerators of rubber vulcanization." ROLLINS FRANCIS CONWAY, "The action of potassium hydroxide upon *l*-arabinose and *d*-xylose." AUSTIN GLENMORE EDISON, "The thermal decomposition of gaseous ethylene oxide at low pressures." RAY LLEWELYN GEDDES, "The thermal decomposition of gaseous germanium tetraethyl." ROBERT CASAD HOCKETT, "The action of aqueous potassium hydroxide upon the disaccharides, lactose, melibiose and gentiobiose: A study showing the effect of the position of the disaccharide linking upon the mechanism of decomposition." JAMES FRANKLIN LEWIS, "1,4-Pentadiene and other unsaturated compounds." JOSEPH BENJAMIN LITTMAN, "The preparation and resolution of asymmetric amines: A study of the Knoevenagel's condensation." MARYAN PIOTR MATUSZAK, "Gaseous reactions." MAUDE NASON POWELL, "The metabolism of tricaprins." BERNARD HARVEY SHOE-MAKER, "A study of the synthesis of certain beta-olefines and diolefines." RICHARD STANLEY SHUTT, "The adsorption of glycerol and some glycols by cellophane." DANIEL EUGENE STRAIN, "A study of the amine thiosulfates." LOUIS AUGUSTUS WEINLAND, "Adsorption at crystal solution interfaces."

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Rensselaer: PETER VAN WYCK, "Studies in the pyrroline series."

Rice Institute: EDWARD JOSEPHI DURHAM, "Studies in the solubilities of the soluble electrolytes." CLYDE ROLAND JOHNSON, "The atomic weights of chlorine and vanadium."

Rutgers: PAUL JONES DAUGHENBAUGH, "Synthesis of derivatives of glucose, cholesterol and certain other alcohols." CARYL HERBERT HOWARD, "Ultra-violet light and vitamin D studies." WALTER TRYON LIVINGSTON TENBROECK, JR., "Metal pyridine fluosilicates."

St. Louis: SIDNEY ALLEN THAYER, "The follicular ovarian hormone (theelin): Distribution; preparation; isolation."

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Syracuse: NEAL ELLSWORTH ARTZ, "The oxidation of inosite with nitric acid." LEOPOLD SCHEFLAN, "The phase diagram of the system ammonia-hydrogen sulphide."

Texas: WILLARD CURTIS THOMPSON, "Isolation of nitrogen bases from California petroleum distillates."

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Washington: VIVIAN RICHARD DAMMERELL, "The preparation and study of colloidal aluminum hydroxide and evidence of its effect on ion distribution in basic aluminum chloride solutions." THEODORE WILLIAM EVANS, "A study of some organic oxidation and addition reactions."

Washington University (St. Louis): AL STEYERMARK, "Studies in the anthrone series: The preparation of certain anthrones of known structure."

Western Reserve: RAMON FRANCIS HANZAL, "The metabolism of theophylline, theobromine, caffeine and their related methyl uric acids." MENAHEM MERLUB-SOBEL, "Electrodeposition of metals in anhydrous ammonia." LADISLAUS A. PASIUT, "I. The reaction of ethylene derivatives with bromine and chlorine in the presence of certain alcohols. II. The synthesis of certain iodo alkoxy acids and the mechanism of the reaction by which they are formed."

Wisconsin: GILBERT HAVEN AYRES, "A study of the influence of hydrolysis temperature on some properties of colloidal ferric oxide." CHARLES FREDERICK BAILEY, "The preparation of new types of local anesthetics containing heterocyclic nuclei." WILLIAM ELMER CALDWELL, "Reduction reactions with calcium hydride." PEARL ELIZABETH CLAUS, "Separation of anterior-lobe hormones and their individual effects." HOWARD IRVING CRAMER, "Catalysis by nickel of the reduction of various organic compounds with hydrogen at pressures of from 20 to 400 atmospheres." SAMUEL HAROLD CULTER, "A chemical investigation of the root of *Echinacea*." GEORGE W. FILSON, "A study of autoredox of certain organic and inorganic compounds." LEO FRIEDMAN, "The structure of gels from studies of diffusion." HANS THEODORE GEBHARDT, "The solubility of metals in milk." ROBERT WARD GETCHELL, "Some factors influencing the activity of certain peroxidases." LAWRENCE JOSEPH HEIDT, "Quantum efficiency measurements of reactions produced by ultra-violet light." MATTHEW LESLIE HOLT, "Couples in the titration of acids and bases." JOHN RAYMOND KEPFER, "A study of colloidal ferric oxide and various factors which influence its ability to catalyze the decomposition of hydrogen peroxide." WALTER MONROE KUTZ, "The relation of structure to the cleavage of certain 1, 3-dicarbonyl compounds." JAMES HOWARD PETERSON, "Promoter action in ceratin oxidation reactions." WESLEY RASMUS PETERSON, "The oxidation of methanol with air over oxide catalysts." LOUIS MARTIN PRUESS, "Studies in the biochemistry of microorganisms." CHRISTIAN HENRY SCHWINGEL, "The variation of dielectric constant with temperature." CHESTER KARL ROSENBAUM, "New methods for the determination of water in certain organic solvents." ARTHUR GEORGE WEBER, "Studies on phosphoric acid: The use of phosphoric acid in preparation of ethylene; the effect of heat on ortho-phosphoric acid."

Yale: GUSTAVE BRYANT BACHMAN, "A chemical study of the isomeric heptenes." FRANKLIN CHURCH BING, "The effects of variations in the vitamin, mineral, and water content of the diet upon the nutrition

and growth of the albino mouse." HELEN BENNETT BROWN, "The relation of vitamin D and mineral content of the diet to the metabolism of calcium and phosphorus in the albino rat." MERRITT CALDWELL FERNALD, 2D., "The preparation and properties of naphthyl ethyl amines." JOSEPH FLEISCHER, "Two-component systems containing sulphur dioxide." ROBERT BARNETT FLINT, "The action of ozone on pyrimidines of the uracil type." LILLIAS DOROTHEA FRANCIS, "Influence of vitamins B, G, and undifferentiated B on the effects produced by protein-rich diets upon the kidney of the rat." KATHRYN ELMIRA GROVE, "The synthesis of amino acid derivatives of naphthalene." ROBERT MAX HERBST, "The synthesis of alkylated ureides of the hydantoin type." BINGHAM JOHNSON HUMPHREY, "The preparation of tetra-alkylguanidines." GEORGE MOSELEY MURPHY, "Temperature coefficients of the dissociation of acetic acid in salt solutions." BENTON BROOKS OWEN, "The dissociation of acetic acid, formic acid, and glycine in aqueous salt solutions." LUCILLE LYMAN REED, "The effect of diet, under-nutrition, fasting and exercise upon the distribution and character of the adipose tissue in the rat." JOSEPH SAMACHSON, "Synthesis and molecular rearrangement of certain oxindole derivatives." ORION EDWIN SCHUPP, JR., "An electrochemical study of caesium chloride and hydroxide solutions." WARD CULLIN SUMPTER, "Preparation of some derivatives of dioxindole." PEARL PAULINE SWANSON, "Certain effects induced by a ration deficient in inorganic constituents." BURTON EPHRAIM TIFFANY, "Equilibria between water and certain sodium salts."

ENGINEERING

Columbia: JOYCE H. CROWELL, "The kinetics of heterogeneous reactions and their dependence on surface and agitation." LESLIE G. JENNESS, "The extraction of tantalum and columbium from their ores."

Cornell: ALBERT JOSEPH H. DE SMAELE, "The utilization of high pressure and high temperature steam for the production of power." DALZELL MELVIN GRIFFITH, "Wind stresses in reinforced concrete buildings."

Iowa State College: LIONEL K. ARNOLD, "Corn stalks as a raw material for paper production." ROGER WOLCOTT RICHARDSON, "The development of synthetic lumber from cornstalks." HENRY ALBERT WEBBER, "I. Studies on the production of oxalic acid from corn stalks and cobs. II. Studies on corn stalk cellulose." YEH FU SUNG, "Efficiency studies in concrete paving operation."

Johns Hopkins: JOHN CROMWELL HOLTZ, "The origin and decomposition of organic sulfur compounds under gas making conditions with particular reference to the rôle of the carbon-sulfur complex." LLOYD LOGAN, "An investigation of the manufacture of water gas with especial reference to the decomposition of steam." CHARLES GORDON MILBOURNE, "The removal of hydrogen sulphide from gas by means of iron oxide with special reference to humidity conditions." ANATOLI CONSTANTINOVITCH SELETZKY, "The unbalanced alternating current bridge for magnetic analysis."

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aqueous tension of lignite. II. The drying of lignite without disintegration."

Ohio State University: ANTHONY GEORGE, "Catalytic oxidation of toluene." WILLIAM ARCHIE HAMMOND, "Soluble anhydrite as a desiccating agent." WEN-WEI HUANG, "The use of sodium aluminate in water softening."

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GEOGRAPHY

California: FRED BOWERMAN KNIFFEN, "The Delta country of the Colorado." CHARLES WARREN THORNTON, "Louisville, Kentucky: A study in urban geography."

Chicago: STANLEY WALLACE COSBY, "The geography of the Imperial Valley of California."

Clark: WALLACE RICHARDS ATWOOD, "The physiographic relationship between the Causses and the Cevennes of southern France." J. HERBERT BURG, "The New England cotton textile industry. A study in industrial geography." MEREDITH FREDERIC BURRILL, "Studies in the industrial geography of Montreal." FLOYD FRANKLIN CUNNINGHAM, "The relation of forest invasion and succession to the major soil types of the Central Massachusetts upland." BERT HUDGINS, "A geographic study of the problems of water supply of Detroit, Michigan."

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Yale: EDWARD MOFFAT WEYER, JR., "The Eskimos: A study in adaptation to environment."

GEOLOGY

California: HULDA HENRIETTA SOMMER, "On the question of dispersion in the first preliminary seismic waves."

California Institute of Technology: BERNARD NETTLESON MOORE, "Geology of the Southern Santa Ana Mountains, Orange County, Calif."

Chicago: ANTONIO DELGADO ALVIR, "A geological study of the Angat-Novaliches region." MALVIN GERALD HOFFMAN, "The geology and petrology of the Wichita Mountains." FORREST ALEXANDER KERR, "Geology of the Memphremagog map area." VIRGIL RAYMONDE DREXEL KIRKHAM, "The geology and oil and gas possibilities of Southwestern Idaho." ALICE EVELYN WILSON, "A geological report on the Cornwall map area, Canada."

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"Geologic structure of the Devonian strata of South-central New York."

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Michigan: GEORGE MARION EHLERS, "Stratigraphy of the Niagaran series of the Northern Peninsula of Michigan."

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Radcliffe: RUTH ALLEN DOGGETT, "The geology and petrology of the Columbia Falls quadrangle, Maine."

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Syracuse: LOUIS WADE CURRIER, "The geology and mineral resources of the Ottawa and Marseilles quadrangles in Illinois."

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MATHEMATICS

Brown: DERRICK HENRY LEHMER, "An extended theory of Lucas' functions."

Bryn Mawr: ROSE LUCILE ANDERSON, "A problem in the simultaneous reduction of two quadratic forms in infinitely many variables."

California: JAMES BRUCE COLEMAN, "Concerning the reducibility of the characteristic equation for a ternary continued fraction."

Chicago: MOFFATT GRIER BOYCE, "An envelope theorem and necessary conditions for a problem of Mayer with variable end-points." ORLEY EDWARD BROWN, "The equivalence of triples of bilinear forms." HAROLD HARDESTY DOWNING, "Absolute minima for space problems of the calculus of variations in parametric form." ALINE HUKÉ, "An historical and critical study of the fundamental lemma in the calculus of variations." EDWARD JAMES MCSHANE, "Semi-continuity in the calculus of variations, and absolute minima for isoperimetric problems." CLIFFORD WILLIAM MENDEL, "Contributions to the projective differential geometry of hyperspace." ALEXANDER OPPENHEIM, "The minima of indefinite quaternary quadratic forms." FRANCISCO DOMINGO PEREZ, "The Hilbert-Schmidt theory of linear integral equations in general analysis for quaternionic-valued functions." DAVID ANTON FREDERICK ROBINSON, "Fourier expansions of pseudo doubly periodic functions with applications." SAMULE SILBERFARB, "Representation by indefinite ternary quadratic forms." RALPH SYLVESTER UNDERWOOD, "On universal quadratic null forms in five variables." FRANK LYNWOOD WREN, "A new theory of parametric problems in the calculus of variations."

Cincinnati: HAROLD WARD SIBERT, "Moderately thick circular plates with plane faces."

Columbia: EDNA ERNESTINE KRAMER, "Polygenic functions of the dual variable w and the Laguerre group."

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HAN KIANG, "Existence of critical points of harmonic functions of three variables." CHIN-NIEN LIU, "Contributions to the restricted problem of three bodies." CHARLES WEXLER, "On the theory of quadratic fields."

Illinois: LEONARD BRISTOW, "Expansion theory associated with linear differential equations and their regular singular points." ELIZABETH MORGAN COOPER, "Perspective elliptic curves." FRANCES HARSHBARGER, "The geometric configuration defined by a special algebraic relation of genus four." JESSE RAYMOND PURDY, "The treatment of finite integration by means of the Cauchy integral theorem." GEORGE WILLIAM STARCHER, "On identities arising from solutions of q -difference equations and some interpretations in number theory."

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Michigan: JOSEPH HOBART BUSHEY, "Asymptotic expressions for a certain class of definite integrals." HUNG CHI CHANG, "Transformation of linear partial differential equations." JOHN JOHNSON CORLISS, "On the unsymmetric top." CARL MARTIN ERIKSON, "Systems of linear difference equations with constant coefficients." HOWARD KIBBLE HIGHER, "On the analytical extension of functions defined by factorial series." SHU TING LIU, "Theory of periodic orbits for asteroids of integral types." EDWIN WILKINSON MILLER, "Concerning subsets of a continuous curve which lie on an arc of the continuous curve." GEORGE COLIN MUNRO, "Systems of linear partial differential equations with constant coefficients." LUIS RADA SALVOSA, "Generalizations of the normal curve of error."

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MEDICINE AND SURGERY

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METALLURGY

Massachusetts Institute of Technology: JOHN LEIGHTON BRAY, "Lead coating of sheet steel."

Notre Dame: FRANK JOSEPH MOOTZ, "Further study of the action of ferro-alloys when mixed with carburizing materials." ERNEST JOHN WILHELM, "A metallographic study of the structure of small amounts of copper and mercury upon the corrosion of lead by sulfuric acid."

MINERALOGY

Cornell: EVERETT PEPPERRELL WHEELER, "A study of some diabase dikes of the Labrador coast."

Wisconsin: VIRGIL EVERETT BARNES, "Changes in hornblende at about 800°C." ALBERT EDWARD JURE, "The petrography of the Purcell Sills."

PALEONTOLOGY

California: THOMAS JOHN ETHERINGTON, "The Astoria formation of southwestern Washington."

California Institute of Technology: CHARLES LEWIS GAZIN, "Geology of the central portion of the Mount Pinos quadrangle, Ventura and Kern Counties, Southern California." RALPH LEONARD LUPHER, "Stratigraphy and correlation of the marine Jurassic of central Oregon."

Cornell: W. STORRS COLE, "Contributions to the tertiary paleontology of the Tampico embayment area."

Fordham: MARK THOMAS CROWLEY, "Evolution and palaeontology."

Iowa: LOWELL ROBERT LAUDON, "The stratigraphy of the Kinderhook series of Iowa."

PATHOLOGY

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- Chicago:** MARGARET JANE PITTMAN, "The pathogenesis of experimental pneumococcus pneumonia." DENIS RAYMOND AUGUSTINE WHARTON, "Immunological studies with tapeworm antigens."
- Cincinnati:** ETHYL LINNA HOPPHAN, "The study of dermal reactions in the selection of bacterial antigens in biological therapy."
- Cornell:** FRANK DICKSON, "Studies on *Sclerotinia sclerotiorum* (Lib.) de Bary." CARL EDWARD FREDERICK GUTERMAN, "A mosaic disease of lilies." WILFRED DOUGLAS MILLS, "The seasonal development of apple scab in Western New York." ALEXANDER ZEISSIG, "A study of the complement fixation test in the detection of acid-fast infections of cattle."
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- Princeton:** ERNEST WESLEY BLANCHARD, "An experimental study of the opsonins of the blood."
- Radcliffe:** EVA ELIZABETH JONES, "Size as a species characteristic in *Coccidia*: Variation under diverse conditions of infection."
- State College of Washington:** GEORGE DEWEY RUEHLE, "Fungi which cause decay of apples."

Western Reserve: ROBERT ALLAN MOORE, "The total number of glomeruli in the kidney of man and animals."

Wisconsin: WALTER MILLER BANFIELD, "The life history of the crown-gall organism in relation to its pathogenesis on the red raspberry." LESTER MARION BLANK, "A study of variation in the cabbage-yellows organism, *Fusarium conglutinans* Wr." HEBER LORAN BLOOD, "Bacterial canker of tomato." TRANQUILINO FAJARDO, "Studies in the mosaic disease of the bean, *Phaseolus vulgaris*." EDWIN JACOB KOHL, "Investigation of the apple-blotch disease." BRYAN LEWELLYN WADE, "Studies on the inheritance of fusarium wilt resistance in canning peas."

PHYSICS

Brown: CLARENCE EDWIN BENNETT, "An application of the linear displacement interferometer to the measurement of dispersion and index of refraction of gases as functions of pressure."

California: NIELS EDLEF EDLEFSEN, "Photo-ionization of the alkali vapors." METTA CLARE GREEN, "The scattering of electrons in small angles by gas molecules and its effect on the electron absorption coefficient. Electron absorption coefficients in phosphorus and arsenic vapors." VICTOR HICKS, "A study of the relative intensities of the x-ray lines of the L series of tantalum." LEON BLOOD LINFORD, "The effect of intense electric fields on the photo-electric behavior of thin alkali metal films on tungsten." CHARLES ERNEST NORMAND, "The absorption coefficient for slow electrons in gases." CORNELIUS ALOYSIUS PULSKAMP, "Oxygen absorption bands." LYNN HUGHES STAUFFER, "Electro-optical modification of light waves."

California Institute of Technology: CARL DAVID ANDERSON, "Space-distribution of x-ray photoelectrons ejected from the K and L atomic energy levels." WARREN NELSON ARNQVIST, "The scattering of electrons in gases." CHARLES HAWLEY CARTWRIGHT, "The theory, design and construction of sensitive vacuum thermopiles." BENEDICT CASSEN, "On theory of gravitational spin." CHUNG-YAO CHAO, "The absorption coefficient of hard gamma-rays." RALPH KOHLRAUSCH DAY, "The viscosities of normal pentane and isopentane as a function of pressure." LYNN GORMAN HOWELL, "Sedimentation equilibria of colloidal particles; further work on the kinetic behavior of colloids in an investigation of the possibility of a mosaic structure of crystals." NORRIS JOHNSTON, "Sedimentation equilibria of colloidal particles." WALTER CHRISTIAN MICHELS, "Variation of helium intensities with current density and pressure." JOHN MAGNUS PEARSON, "The scattering of electrons by gases."

EDWARD MOULTON THORNDIKE, "An experimental test of Einstein's time transformation equation."

Chicago: MALCOLM YOUNG COLBY, "The crystal structure of anhydrous sodium sulfate." IRWIN WALTER COX, "Scattering of positive lithium ions in mercury vapor." RONALD LYMAN MCFARLAN, "The effect of an electric field on the x-ray diffraction pattern of a liquid." FLOYD LESTER NUTTING, "Position and width of the modified line of the spectrum of scattered x-rays." JOYCE CLENNAM STEARNS, "Can electrons revolving in inner orbits account for ferro-magnetism?" JAMES STRATTON THOMPSON, "The motion of slow positive ions in gases." ERNEST OMAR WOLLAN, "Electron distribution in magnesium oxide."

Columbia: FRANCIS THEODORE BITTER, "The magnetic susceptibilities of several organic gases." WILLIAM WALTER MACALPINE, "The resistance of bismuth in alternating magnetic fields with supplement on a radio frequency potentiometer." LOUIS GORDON POOLER, "Velocity of propagation of longitudinal waves in liquids at audio frequencies."

Cornell: SIDNEY WILLSON BARNES, "The excitation potentials of x-ray satellites." CHARLES EDWARD BERGER, "Effect of light on the electron emission from cerium dioxide." PERCY HAMILTON CARR, "A new method for recording electrons." ALFRED ALEXANDER DIXON, "The dependence of fluorescence upon concentration in liquid and solid solutions." LLOYD PRESTON SMITH, "The emission of positive ions from tungsten and molybdenum." GEORGE ROBERT STIBITZ, "Vibrations of nonplanar membranes." JAMES SHEPARD WEBB, "The effect of magnetic fields on the high frequency resistance of ferro-magnetic conductors."

Harvard: GERALD MARKS ALMY, "The Zeeman effect in molecular spectra of the doublet type." JAMES HOLLEY BARTLETT, JR., "The ionization of multiatomic molecules by impact of slow electrons." DAVID SAVILLE MUZZEY, JR., "Some measurements of the frequencies of longitudinal vibration for bars of magnetostrictive materials." CHARLES DAVID REID, "Investigations in the velocity of sound at ultra sonic frequencies, using quartz oscillators." CLARENCE ZENER, "Quantum mechanics of the formation of certain types of diatomic molecules."

Illinois: LANGFORD TODD BOURLAND, "The magnetic susceptibilities of osmium, iridium and platinum." ALBERT NELSON GUTHRIE, "Magnetic properties of the palladium metals and some of their compounds." HUGO NATHANAEEL SWENSON, "Intensity relationships in neon spectrum."

Indiana: JESSE CODY HENDRICKS, "The effect of motion of liquid insulators upon their dielectric properties."

Johns Hopkins: JAMES DANIEL HARDY, "A theoretical and experimental study of the resonance radiometer." CARL KAPLAN, "On the fundamental constitutive relations in electromagnetic theory." ARTHUR BEVERLY LEWIS, "Coupled vibrations with applications to the specific heat and infra-red spectra of crystals." HENRY MILES O'BRYAN, "The efficiency factor of gratings in the extreme ultra-violet." SHIRLEIGH SILVERMAN, "Adsorption of methyl alcohol films on rock salt."

Michigan: ROBERT FOX BACHER, "The Zeeman effect of hyperfine structure." EDWARD BIGELOW BAKER, "The application of the Fermi statistics to the calculation of the potential distribution of positive ions." JOHN SCOTT DONAL, JR., "Studies in abnormal shot effect." JAMES FRANCIS DUNCAN, "Electronic bands of carbon dioxide." LEWIS BARNARD HEADRICK, "Collisions of the second kind and their effect on the field in the positive column of a glow discharge in mixtures of the rare gases and mercury vapor." BEN KIEVIT, "Fine structure in the X-ray absorption spectra of the K series of the elements calcium to gallium." HENRY NIKODEM KOZANOWSKI, "Shot effect of the emission from oxide cathodes." JOHN DONOVAN STRONG, "An extension of the infra-red spectroscopy by means of a self registering vacuum spectrograph." EARL RUSSELL WIGHTMAN, "A contribution to the study of binaural hearing." LLOYD ARTHUR YOUNG, "The Wentzel-Brillouin-Kramers approximate solution of the Schrodinger wave equation."

Minnesota: WALKER BLEAKNEY, "A new method of positive ray analysis and its application to the measurement of ionization potentials in mercury vapor." FLOYD CLIFFORD OSTENSEN, "A new method for the study of voltage-intensity relations and its application to the mercury 2537A line."

Missouri: HARRY EMMONS HAMMOND, "Electromotive force, resistance and capacitance measurements in photovoltaic cells containing solutions of Grignard reagents."

New York: BROOKS ARTHUR BRICE, "The band spectrum of silver chloride." CARL TRUEBLOOD CHASE, "A search for polarization in a beam of fast electrons by scattering." ROGER SHEPHERD ESTEY, "Carbon monoxide band spectra."

North Carolina: MILTON LAU BRAUN, "The electrodeless glow discharge." JOHN FENTON DAUGHERTY, "The infra-red absorption spectra of benzene and its halogen derivatives." OLIVER PHILIP

HART, "Intensity variation of arc and spark lines in the electrodeless discharge of mercury."

Pennsylvania: LAWRENCE YODER FAUST, "The fine structure of the K radiation of the lighter elements." JOSEPH RAZEK, "A direct measurement of the intensity variations of the helium lines with voltage."

Princeton: HENRY ALEXANDER BLAIR, "The spark spectra of silver and palladium (Ag II and Pd II)—an extension." JOHN HAMLEY FINDLAY, "The spark spectrum of cobalt (Co II)."

Radcliffe: ALICE HALL ARMSTRONG, "The relative intensities of some lines in the x-ray spectrum."

Rensselaer: GEORGE FREDERICK SAGER, "An investigation of the heat conductivities of some nickel and copper-nickel alloys."

St. Louis: LESTER IRWIN ZIMMERMAN, "Time-lag in the formation of the latent image."

Stanford: CEDRIC EDWARD HESTHAL, "Intensity relations in the chromium spectrum."

Virginia: EVERLY JOHN WORKMAN, "A new method of measuring the variation of the specific heats (C_p) of gases with pressure."

Washington University (St. Louis): JAMES HOWARD McMILLEN, "Angle and energy distribution of electrons rebounding from gaseous molecules." ANCIL RIDGWAY THOMAS, "An investigation of the properties of resonance radiation."

Wisconsin: JOHN VINCENT ATANASOFF, "The dielectric constant of helium." MYRL NELSON DAVIS, "A study and partial explanation of the emission of secondary electrons from cobalt." ELLIS HOWARD DIXON, "The photoelectric and thermionic properties of rhodium." EDWIN MICHAEL GUYER, "Magnetic permeability in high-frequency fields." BURTON FRANK MILLER, "Theory of vacuum-tube amplifiers." RAGNER ROLLEFSON, "The continuous and band spectrum of mercury."

Yale: JOSEPH HERMAN HOWEY, "The magnetic behavior of nickel and iron films evaporated against various metal backings." CAROL GRAY MONTGOMERY, "The magnetic isotropy of copper crystals." HARRY ROLNICK, "A new method for measuring the tension coefficient of resistance of metals."

PHYSIOLOGY

Brown: JESSE PHILIP GREENSTEIN, "A study of the dissociation of glycocoll and certain peptides."

California: ALDEN SPRINGER CRAFTS, "The movement of organic materials in plants." AMBADAS SHRIHARI MULAY, "Seasonal variations in nitrogenous compounds in pear shoots."

- Chicago:** HELEN BROWN BURTON, "The influence of cereals upon the retention of calcium and phosphorus in children and adults." CALLIE MAE WILLIAMS COONS, "Retention of nitrogen, calcium, phosphorus and magnesium by pregnant women." CHESTER DAVIS, "Studies in the organic chlorides of tissues." ARCHIBALD ROSS MCINTYRE, "The mechanism of the action of extract of the posterior lobe of the pituitary body on the secretion of urine in the unanaesthetized dog." JOHN PAUL QUIGLEY, "An investigation of the mechanism of the action of insulin hypoglycemia on gastric hunger contractions." HERMAN GLENN RICHEY, "The blood pressure in boys and girls before and after puberty and its relation to growth and maturity." LEONARD BENJAMIN SHPINER, "The effect of ergotamine on the blood sugar." BERNICE CORNELIA WAIT, "The energy intake of healthy girls ten to sixteen years of age."
- Colorado:** RALPH WESLEY DANIELSON, "A study of unilateral voluntary winking: Some modifying factors and associated phenomena."
- Cornell:** ALLEN DUDLEY KELLER, "Observations on the respiratory and vaso-motor mechanisms in brain-stem of the cat." HERBERT SEDGWICK WILGUS, JR., "The calcium and phosphorus requirements of growing chicks."
- Harvard:** MAGNUS INGSTRUP GREGERSEN, "The control of salivary secretion during water deprivation." GORDON CLARK RING, "Some factors affecting metabolism during exercise."
- Johns Hopkins:** ROBERT MARSHALL, "An experimental study of the water relations of seedling conifers, with special reference to wilting." PEI-SUNG TANG, "An experimental study of the germination of wheat seed under water as related to temperature and aeration." EMMA FRANCE WARD, "The measurement of skin temperature in its relation to the sensation of comfort."
- Kansas:** WILBUR FURSE POTTER, "The effects of methyl guanidine salts on some of the autonomic nerves of the dog."
- Michigan:** JOHN WILLIAM BEAN, "Effects of high oxygen pressure on blood acidity, oxygen consumption, volume flow of blood and respiration." CHARLES EDDY GREELEY, "Head and body flow of blood during periodic ventilation with apneas." PAUL ORSEN GREELEY, "Head and body flow of blood during periodic ventilation without apneas." HUGO MARTIN KRUEGER, "Variations in blood lactic acid under some experimental conditions."
- Minnesota:** NATHAN JOSEPH BERKWITZ, "Quantitative studies on human muscle tonus." JULIUS JENSEN, "The adrenalin test in hypertension. A functional study of the hypertensive heart." JAMES COLE McCANN, "Experimental studies on the physiology of the

stomach." HAROLD PAUL MORRIS, "An experimental study of inheritance as a factor influencing food utilization in the rat." LOUIS ODILON REGEIMBAL, "The rôle of iodine in plant nutrition." FREDERIC RUSSELL STEGGERDA, "The effects of water content on muscular efficiency."

Northwestern: HAROLD CHARLES LUETH, "The physiology of the sphincter of Oddi studies on the resistance of the passage of bile into the duodenum."

Oregon: ALICE MATILDA BAHRS, "The normal growth-promoting power, for planarian worms, of certain regions of the digestive mucosa of the rabbit, and the modification of this power under variations in diet, fasting and age." ROLLAND J. MAIN, "Stereotropism and geotropism of the salamander (*Triturus torosus*)."

Pennsylvania: WALTER STANTON ROOT, "The influence of carbon dioxide upon the oxygen consumption of paramecium and the egg of arabacia."

Radcliffe: RUTH EMELENE CONKLIN, "The formation and circulation of lymph in the frog."

Rochester: RAY GILBERT DAGGS, "Lactation as influenced by different food proteins." DONALD EATON GREGG, "Lipid metabolism as a possible source of carbohydrate."

Stanford: WILBUR ARTHUR SELLE, "Contributions to the physiology of insulin: Fat metabolism in the diabetic." EOLA CLAIRE WOOLLEY, "The distribution of capillaries in the muscle tissue of the dog under various conditions."

Tulane: PAUL CAMERON FOSTER, "The effects of radiation on experimental anemia."

Washington University (St. Louis): IDA THERESE GENTHER, "Irradiation of the ovaries of guinea pigs by x-rays and the effects on the oestrus cycle."

Wisconsin: EDGAR AUGUSTUS COCKEFAIR, "The rôle of phosphorus in the metabolism of the higher plants." ALVIN ROMAINE LAMB, "Studies on fluorine as a factor in the value of mineral phosphates in animal nutrition." FERDINAND PAUL MEHRLICH, "Some factors which affect growth and certain changes which accompany growth from foliar meristems of *Bryophyllum calycinum*." GLENN ALLEN SCHRADER, "The physiological effects of excessive amounts of vitamin D in the form of irradiated ergosterol."

Yale: ELLEN MIRANDA RADLOFF, "Factors regulating the acid-base equilibrium of the blood during anoxaemia in intact and in vagotomized dogs."

PSYCHOLOGY

American: JOSEPH ROSSMAN, "The psychology of the inventor."

Boston: NELLIE EVA POWERS, "Measurement of intelligence of school children at work."

Bryn Mawr: HAZEL AUSTIN WENTWORTH, "A quantitative study of achromatic and chromatic sensitivity from center to periphery of the visual field."

California: JOSEPHINE BALL, "Measurement of sex behavior in male rats." HSIAO HUNG HSIAO, "The status of the first-born, with special reference to intelligence."

Chicago: EVA RUTH BALKEN, "Affective, volitional and galvanic factors in learning." ROBERT WALLACE BRUCE, "Conditions of transfer of training." ELMER DUMOND HINCKLEY, "The influence of individual opinion on construction of an attitude scale." MARY ALDEN MORGAN LEE, "The relation of the knee jerk and standing steadiness to nervous instability." EVERETT FRANK PATTEN, "The duration of post-hypnotic suggestion." NATHAN WETHERILL SHOCK, "Mental performance and the acid base balance of normal individuals." HATTIE NESBIT SMITH, "The construction and application of a scale for measuring attitudes about prohibition." MINNIE LOUISE STECKEL, "Intelligence and birth order in family." MARTIN MARSHALL WHITE, "Relation of bodily tension to electrical resistance." KWANG SUP YUM, "An experimental test of the law of assimilation."

Clark: MASON NELSON CROOK, "An investigation of the sensory aspects of electrical stimulation of the skin." WAYNE DENNIS, "The sensory control of the white rat's response to the maze." LOUIS WANGER GELLERMANN, "The problem of double alternation with monkeys and human subjects." CLARENCE HENRY GRAHAM, "An investigation of binocular summation." ROBERT WARD LEEPER, "The reliability and validity of maze experiments with white rats." NORMAN LESLIE MUNN, "Visual pattern discrimination in rats, raccoons and chickens, with the determination of a differential brightness threshold for the raccoon."

Columbia: MORTIMER J. ADLER, "Music appreciation." LEO D. ANDERSON, "A preliminary study of the effect of training in junior high school shop courses." LAWRENCE E. COLE, "The localization of tactual space." HAZEL M. CUSHING, "A perseverative tendency in preschool children." DAVID BALLIN KLEIN, "The experimental production of dreams during hypnosis." HENRY W. NISSEN, "The effects of gonadectomy, vasotomy and injections of placental and orchic extracts on the sex behavior of the white rat."

Duke: WILLIAM YUANLUNG CHEN, "A psychological interpretation of Chinese culture."

Harvard: DWIGHT WESTLEY CHAPMAN, JR., "The comparative effects of determinate and indeterminate Aufgaben upon certain types of attentional report." GEORGE EDWARD GARDNER, "Introversion in its relation to certain factors of development during childhood." ALBERT JOSIAH HARRIS, "Studies of affective contrast." DONALD McLEAN PURDY, "Chroma as a function of retinal illumination."

Illinois: STEPHEN MAXWELL COREY, "The relationship between compulsory physical exercise and the ability of the white rat to learn and relearn an elevated skeleton maze."

Indiana: RICHARD STEPHEN HARTER, "An experimental analysis of the structure of and individual differences in associative capacity." HUGH LEE WASKOM, "An experimental analysis of incentive and forced application and their effects upon learning."

Iowa: JOSEPH HAROLD TIFFIN, "Some aspects of the psychophysics of the vibrato." DOROTHY TRIPLETT, "Temporal perception of short intervals."

Johns Hopkins: LAURENCE ARMSTRONG PETRAN, "Studies in pitch identification and discrimination." MAGDA VOYEN SKALET, "The significance of delayed reactions in young children." ROBERTA STEVENS WHITE, "Motor suggestion in children."

Kansas: ONIAS BARBER BALDWIN, "The maturation of the college students as evidenced by retests with the National Council tests." MARGERY GILBERT CUTSFORTH, "A study of successive discriminations of brightness in chicks." THOMAS D. CUTSFORTH, "An analysis of the relationship between tactual and visual perceptions."

Michigan: SINFOROSO GADDUANG PADILLA, "Further studies on the delayed pecking of chicks." BURTON DOAN THUMA, "A contribution to the study of the auditory sensitivity of the white rat." DORIS FRANCES TWITCHELL, "An investigation of higher thought processes."

Minnesota: HAROLD DEAN CARTER, "Family resemblances in verbal and numerical abilities." ELLA JEANETTE DAY, "The development of language in twins." FLORENCE JUSTIN, "A genetic study of laughter-provoking stimuli." THEOS ALVIN LANGLIE, "The use of the graphic rating scale methods to predict university scholarship." WALTER GINDER McALLISTER, "A further study of the delayed reaction in the albino rat." KEITH SWARD, "An experimental study of leadership."

North Carolina: KEY LEE BARKLEY, "The development and demonstration of a new method for determining the relative efficiencies of advertisements in magazines."

Ohio State University: HENRY J. ARNOLD, "An analysis of some of the elements in the previous preparation of college students and the relation of these elements to academic standing." ELSWORTH VACHEL BOWERS, "Causes of delinquency." CLAIR HENRY CALHOON, "A comparative study of the follow-up histories of two groups of delinquent boys." RALPH EMERSON DUNFORD, "A genetic study of cutaneous localization." HAROLD VINCENT GASKILL, "The objective measurement of emotional reactions." ORVIS CARL IRWIN, "The diurnal activities of infants under two weeks of age." RUTH VIRGINIA JOHNSON, "Certain problems of study method and background affecting success in courses in English and the modern languages." ALBERT KENNETH KURTZ, "The ascription of optimal point values to college marks." JOSEPHINE CLOUSING KURTZ, "The relation of social activities to academic success." ALVHH RAY LAUER, "An analysis of integration: The relation of eye, hand and foot response mechanisms." DOROTHY KATHRYN POSTLE, "Habit formation in the newborn infant." JOHN THOMAS SEATON, JR., "An analysis of problems of learning and retention in English composition." ROBERT JAMES WHERRY, "Non-test factors in the prediction of college success criteria." MORRIS EMETT WILSON, "Reliability of judgment in music contests."

Pennsylvania: CARL LEWIS ALTMAIER, JR., "The performance level of children in the sixth grade in two Philadelphia public schools." DALLAS EYRE BUZBY, "A study of test results at the third and fifth grade levels." HOWARD T. HOVDE, "The relative effects of size of type, leading and context." GEORGIANA SHARPLESS MENDENHALL, "A study of behavior problems." YALE SAMUEL NATHANSON, "An analysis of sounds and frequency words basic to a new method of corrective speech." ARTHUR PHILLIPS, "An analytic and comparative study of the Binet-Simon test responses of 1306 Philadelphia school children, with an attempt to evaluate and grade the separate tests and to give some account of the mental abilities involved." EDWARD MARVIN TWITMYER, "Visual guidance in motor learning."

Pittsburgh: ALFRED GODFREY DIETZE, "Factual memory of secondary school pupils for a short article which they read a single time." JOHN LEWIS ERNST, "An analysis of the ethical and religious habits of a group of convicts."

Stanford: SIEGEN K. CHOU, "The psychology of reading Chinese characters." LOVIC PIERCE HERRINGTON, "The physiological and anthropometric correlates of introversion and extroversion."

Syracuse: ARTHUR FREEMAN JENNESS, "Experimental studies of responses to social stimulation." CLARENCE J. LEUBA, "Study of the differences in the work output of children when performing simple tasks under different incentive conditions."

Texas: EVELYN MAURINE CARRINGTON, "Peripheral vision in the silent reading of children."

Wisconsin: RAYMOND HUMPHREY BARNARD, "An objective study of the speeches of Wendell Phillips." JAY EDWARD CASTER, "A new index for the detection of variability in circulatory and respiratory behavior." EARL MILLER, "A comparative study of ten group intelligence tests on the high-school level." WILBERT SCOTT RAY, "Emotional responses in children with particular reference to circulatory and respiratory changes." WILHELM REITZ, "The intelligence of teachers: A study of scholastic aptitude in relation to teaching success." THEODORE L. TORGERSOHN, "The measurement of teaching ability." RICHARD JULIAN VAN TASSEL, "Prognosis in modern foreign-language study."

Yale: ERNEST ROPIEQUET HILGARD, "Conditioned reactions of the human eyelid utilizing light and sound stimuli." I HUANG, "Children's explanations of strange phenomena." HELEN PEAK, "Modification of the lid-reflex by voluntarily induced sets." SAMUEL YOCHELSON, "Effects of rest pauses on work decrement."

PUBLIC HEALTH

Johns Hopkins: ROLLA BENNETT HILL, "Hookworm reinfection for three years after treatment in a sanitated area in Porto Rico, and its bearing on permanent hookworm control in the group studies." HARUO MIZUSHIMA, "The correlation between growth rates of population and vital factors by geographical districts." MANGALAM KESAVA VALIATHAN GOPALA PILLAI, "Review of the world prevalence of cholera during the quinquennium 1924-1928." YUN-CHAN SUN, "The ventilation of classrooms." I-CHIN YUAN, "Life tables for a southern Chinese family from 1365 to 1849."

Massachusetts Institute of Technology: PABLO IGNACIO DE JESUS, "The sanitary disposal of human excreta."

Michigan: ASA NAKAO, "Sensitization."

Yale: ELOISE TREAT HAYWOOD, "A comparative study of the effect of cations on bacterial viability."

ZOOLOGY

- California:** WILLIAM HENRY BURT, "Adaptive modifications in the woodpeckers." DAVID McCLELLAN, DE FOREST, "Fecundity in *Drosophila* following exposure of the pupae to x-rays." ANCEL BENJAMIN KEYS, "A study of the selective action of decreased salinity and of asphyxiation on the Pacific killifish, *Fundulus parvipinnis*." JOHN PATTILLO TURNER, "Division and conjugation in *Euplotes patella* Ehrenberg, with special reference to the nuclear phenomena."
- Chicago:** LESTER GEORGE BARTH, "The effect of acids and alkalies on the viscosity of protoplasm." THOMAS ELWOOD HUNT, "An experimental study of the significance of Hensen's node in the development of the chick embryo." CARL JOHAN SANDSTROM, "The relation of differentiation to species specificity as shown by grafts of duck kidney on the chorio-allantoic membrane of the chick."
- Columbia:** MORRIS H. HARNLY, "An experimental study of environmental factors in selection and population." JAMES BRIDGES LACKEY, "Studies on the life histories of *Englenida*." HARRIET CUTLER WATERMAN, "Studies on the evolution of the pelvis of man and other primates."
- Cornell:** ELSA GUERDRUM ALLEN, "Studies in the life history of the eastern chipmunk." WILBUR KINGSLEY BUTTS, "A study of the chickadee and white-breasted nuthatch by means of marked individuals." RAYMOND BRIDGMAN COWLES, "The life history of *Varanus niloticus* (Linnaeus) as observed in Natal, South Africa." HENRY GEORGE GOOD, "The wing venation of the *Cerambycidae*." BYRON GORDON, "The morphology of heritable characters in *Platy-poecilus*, *Xiphophorus* and hybrid fishes." JOHN RICHARD GREELEY, "A contribution to the biology of the horned dace, *Semotilus atromaculatus*." JOHN GRAY, "The post-embryological development of the digestive system in *Homaledra sabalelia* Chambers." JAMES SQUIER GUTSELL, "Natural history of the bay scallop." WILLIAM JOHN HAMILTON, JR., "The biology of the star-nosed mole, *Condylura cristata* Linnaeus." GEORGE EDWARD ROMAINE HERVEY, "The structure of the salivary gland of *Philaenus lineatus*, Linn. (*Cercopidae*)." E. HAROLD HINMAN, "A study of the food of mosquito larvae (*Culicidae*)." MINNA FROTSCHER KOCH, "Studies in the morphology of the corolla of the *Compositae*." CLAUDE WILLARD LEISTER, "Food and feeding habits of the ducks of the Cayuga Lake region." GUY FRANKLIN MACLEOD, "Effects of ultraviolet radiations on the bean weevil, *Bruchus obtectus* Say." AMY GRACE MEKEEL, "Pulmonary development in the lungless salamanders."

CLARENCE RITCHIE PHIPPS, "A biological and ecological study of the insects affecting the blueberry and huckleberry." DONALD TIMMERMAN RIES, "A biological study of certain species of climbing cutworms of New York State." MORRIS ALBION STEWART, "A synopsis of the *Siphoneptera* of North America, north of Mexico." ALAN STONE, "A study of the flies of the family *Tabanidae* with especial reference to the biology of New York State species." LOUIS EDWARD WOLF, "The history of the germ-cells in the viviparous teleost *Platyopocilus maculatus*." CLARKE COURSON ZELIFF, "Studies of protozoa of the genera *Oxymonas*, Kirbyella, gen. nov., and *Polymastix*, with the description of a new species of cestode."

Duke: THOMAS EDWARD POWELL, JR., "The tobacco beetle: Its life history and control."

Fordham: JAMES AQUINAS MULLEN, "*Eutermes processionarius*."

Harvard: ERIK FRITIOF BJERKANDER FRIES, "Nervous control of the yellow pigment cells in the skin of fundulus." BENJAMIN RANDOLPH COONFIELD, "The effectors of annelids in relation to the nervous system."

Illinois: RUTH ANDERSON, "The somatic effects of unit hereditary factors under constant environmental conditions." ERNEST CHARLES DRIVER, "The temperature effective periods for facet number in bar and ultra bar races of *Drosophila melanogaster*." SAMUEL EDDY, "A study of fresh-water plankton communities." SAMUEL CHARLES KENDEIGH, "The rôle of temperature, and other environmental factors in the life of birds."

Indiana: RALPH OSCAR HILE, "The growth of fishes in Indiana lakes." HERMAN PAUL WRIGHT, "Aquatic mollusca of the Tippecanoe River System. I. Post-glacial migrations and present distribution of four species of snails."

Iowa: VERLUS F. LINDEMAN, "The physiology of the Crustacean heart."

Iowa State College: TA-SHIH HSIUNG, "A monograph on the protozoa of the large intestine of the horse." HENRY ALBERT STABE, "The rate of growth of worker, drone and queen larvae of the honeybee, *Apis mellifera* Linn."

Johns Hopkins: EMILY WALCOTT EMMART, "*Carinogammarus mucronatus* (Say): Studies on its life history and development including the effects of temperature upon the embryo." OLIVER RUFUS MCCOY, "Studies on the biology of the free living stages of the hookworm." HELEN MAR MILLER, "Life histories of the sexual and the non-sexual generations in the rotifer, *Distyla inermis* Bryce, with study of factors determining the change of generations."

DANIEL RAFFEL, "The effects of conjugation within a clone of *Paramecium aurelia*." EUGENE SCHUMAKER, "Studies on the balantidium from the domestic pig." HELEN BERENICE SMITH, "A study of depression in the *Rotifera*, with special reference to the effects of modifications of the culture medium upon length of life and fecundity." HIROMU TSUCHIYA, "Studies on two diverse strains of *Giardia lamblia* Stiles 1915."

Kansas: GEORGE T. MCNAIR, "The functional development of the mesonephron in *Peromyscus leucopus*."

Massachusetts Agricultural College: E. AVERY RICHMOND, "I. The external morphology of *Hydrophilus obtusatus* Say. II. Chemotropic studies of the Japanese beetle, *Popillia japonica* Newm." KENNETH A. SALMAN, "I. Studies in the genus *Pepsis* (Hymenoptera: *Psammocharidae*). II. Immature stages and biology of a birch case bearer." HARVEY L. SWEETMAN, "Morphological and ecological studies of the Mexican bean beetle."

Michigan: JOHN JOSEPH BITTNER, "A genetic study of the transplantation of tumors arising in hybrid mice." CHARLES EARLE BURT, "A study of the teiid lizards of the genus *Cnemidophorus*, with special reference to their genetic relationships." TSO HSIN CHENG, "The germ cell history of *Rana cantabrigdensis* Baird." FRANK EGBERT EGGLETON, "A limnological study of the profundal bottom fauna of certain fresh-water lakes." CHARLES VALMAR GREEN, "Size inheritance and growth in a mouse species cross." MARCUS CALVIN OLD, "Contribution to the biology of the fresh-water sponges (*Spongillidae*)." HELEN FLORENCE PRICE, "Life history of *Schistosomatum douthitti* (Cort.)." RUTH ISOBEL DOWELL SVIHLA, "The ecological distribution of the mammals on the north slope of the Uinta Mountains."

Minnesota: RALPH WARD DAWSON, "Studies on the causes of dormancy among insects, with special reference to the polyphemus moth." EDWARD GEORGE REINHARD, "The plankton ecology of the upper Mississippi (Minneapolis to Winona)." WILLIAM CARL STEHR, "The activating influence of light upon certain aquatic arthropods."

Missouri: FARRIS HARDIN WOODS, "The history of the germ-cells in *Sphaerium striatinum*."

Ohio State University: RODNEY CECIL, "A biological and morphological study of a cercopid, *Philaenus leucophthalmus* Linnaeus." WINSTON EDSON DUNHAM, "The influence of external temperatures on the temperatures within a colony of honeybees during the brooding period." CLIFFORD OTIS EDDY, "House fumigation experiments with

calcium cyanide." FRANK ROY ELLIOTT, "The ecology of spiders of the beech-maple forest." LELA ARMINDA EWERS, "The larval development of freshwater *Copepoda*." FOSTER LEE GAMBRELL, "On the biology and control of certain species of the genus *Rhagoletis* (Diptera)." JOSEPH LYONEL KING, "Insect parasites of the Japanese beetle, *Papillia japonica*." JAMES BRYANT MACK, "A revision of the *Bryozoa* of the Atlantic Coast of North America." JOSEPH BERNARD POLIVKA, "The ineffectiveness of some insecticides against the European corn borer, *Pyrausta nubilais* Hubn." JOHN WORTHINGTON PRICE, "Growth and gill development in the small-mouthed black bass, *Micropterus dolomieu* Lacépède." WARREN POPPINO SPENCER, "Genetic studies on *Drosophila*." HARRY GRANDVILLE WALKER, "Studies on extracts of pyrethrum flowers as an insecticide."

Pennsylvania: REUBEN BLUMENTHAL, "Mitotic activity of arbacia eggs in cyanides." PAUL RUDBERT ORR, "Physiological studies of respiratory metabolism." ELEANOR HEIST SLIFER, "Fatty acids in the grasshopper egg."

Pittsburgh: STANLEY TRUMAN BROOKS, "The land snails of Pennsylvania, with reference to their distribution."

Stanford: HAROLD RAYMOND HAGAN, "The embryogeny of *Hesperoctenes fumarius* Westwood, with reference to viviparity in insects." MAX WALKER DELAUBENFELS, "The sponges of California."

Texas: GORDON MARSH, "Relation between continuous bioelectric currents and cell respiration."

Virginia: PAUL RANDOLPH BURCH, "The effect on the division rates of *Arcella vulgaris* and *Arcella rotundata*, (1) of the injury caused by the excision of cytoplasm; (2) of the loss of cytoplasm; and (3) of the gain of cytoplasm." HORACE EDWIN HAYDEN, JR., "The calyptorhynchian flatworms of Albemarle County, Virginia."

Washington University (St. Louis): FLORENCE MARY HEYS, "The problem of the origin of germ cells."

Wisconsin: HAROLD WILLIAM BEAMS, "Cytological study on milk formation." THOMAS CHAUNCEY CARTER, "Studies on the host-parasite relationships in experimental trypanosomiasis with *Trypanosoma equiperdum* and various laboratory animals." CHRISTOPHER JOHN HAMRE, "The influence of iodine on the development of the thyroid of trout fry." PAUL STEWART HENSHAW, "Some biological effects produced by alpha particles." WILLIAM ANDREW HIESTAND, "The influence of varying tensions of oxygen upon the respiratory metabolism of certain insects and the crayfish." STEVEN JOHN

MARTIN, "The effect of certain endocrine secretions on the X-zone of the adrenal gland of the mouse." ROLAND KENNETH MEYER, "The inhibition of oestras and correlated changes in the genital tract of the rat." WILLIS LATTANNER TRESSLER, "Limnological studies of Lake Wingra." CHARLES EDWARD WOODWORTH, "The effect of reduced pressure on the respiration of the honey bee."

Yale: EDMUND KENNARD HALL, "The determination of the axes of the embryonic ear: an experimental study by the method of 90° rotation." CHESTER LOOMIS YNTEMA, "Determination of the ear in the amphibian embryo."

